

# THE CHEMIST

AUGUST 1950



VOLUME XXVII No. 8



**DR. LAUREN B. HITCHCOCK**

*New AIC Councilor  
(See page 301)*



## **DEPENDABLE temperature in laboratory ovens**

For drying, embedding or any other use to which an oven or incubator is put in the laboratory, you can depend upon Cenco ovens for constant and uniform temperature.

The Cenco Cylindrical Oven is easily set for automatic regulation to any point from approximate room temperature to 210°C. above the surrounding temperature. The thermoregulator is responsive to slight changes; the heating elements surround the chamber to provide uniform distribution of heat with low wattage requirement.

Cenco ovens are famous for trouble-free, dependable service. 50 years experience in the design and manufacture of constant temperature appliances are yours in Cenco ovens.

*Write for bulletin 5 describing Cenco Constant Temperature Equipment*

**CENTRAL SCIENTIFIC COMPANY**  
*Scientific Instruments • Laboratory Supplies*

CHICAGO • BOSTON • WASHINGTON • DETROIT • SAN FRANCISCO • LOS ANGELES • TORONTO • MONTREAL

# *The* CHEMIST

Reg. U. S. Pat. Off.

*Publication of*

THE AMERICAN INSTITUTE OF CHEMISTS, INC.  
60 East 42nd Street, New York 17, N. Y.

---

Volume XXVII

August 1950

Number 8

---

*Editor:* V. F. KIMBALL

## **Editorial Advisory Board**

RAYMOND E. KIRK

HILTON IRA JONES

WALTER J. MURPHY

## **Contributing Editors**

M. R. Bhagwat, H. K. Ferguson Co., 19 Rector Street, New York, N.Y.

C. C. Concannon, Office of International Trade, Department of Commerce, Washington, 25, D.C.

D. H. Killeffer, 168 Westchester Ave., Tuckahoe 7, N.Y.

Dr. Richard L. Kenyon, 1304 No. Astor St., Chicago 10, N.Y.

Dr. George F. Rugar, 54 Waldamer Ave., Willoughby, Ohio.

Dr. Frederick W. Sawyer, Research Institute, Stanford University, Stanford, Calif.

## **Department Editors**

*Condensates*, Dr. Ed. F. Degering.

*Local Chapter News*, C. P. Neidig.

*Chemical Books Abroad*, Rudolph Seiden

---

THE AMERICAN INSTITUTE OF CHEMISTS does not necessarily endorse any of the facts or opinions advanced in articles which appear in *THE CHEMIST*.

Entered as second class matter April 8, 1936, at the Post Office at New York, N.Y., under Act of August 24, 1912. Issued monthly at 60 East 42nd Street, New York 17, N. Y. Subscription price, \$2.00 a year to members. \$3.00 to Non-Members. Single copy, this issue \$0.25. Copyright, 1950 by THE AMERICAN INSTITUTE OF CHEMISTS, INC.

## **SCHEDULED FOR EARLY ISSUES**

Determination of Wages for Chemical Engineers and Chemists, by Dr. Robert S. Aries, F.A.I.C., and William Copulsky

Award of Honorary Membership to Dr. James Withrow, F.A.I.C.

Chemists Over Forty-five, by Herbert F. Schwarz, F.A.I.C.

Employment Discrimination in the Chemical Industry, by Albert J. Weiss

Employment Contracts, John A. Diener, F.A.I.C.

From Industry to Teaching, by John Happel, F.A.I.C.

Opportunities for the Chemist in the Sales Field, by N. Harold Fyfe, F.A.I.C.

The Increasing Responsibilities of the Chemist, by Ralph Lamenzo, F.A.I.C.

An Employment Project.

## IN THIS ISSUE

<i>Editorial, The Utilization of Research Results.</i> Dr. Albert G. Chenicek .....	303
<i>The Chemist's Responsibility as a Professional Man,</i> Dr. W. E. Kuhn, F.A.I.C. ....	305
<i>Presentation of Honor Scroll to Dr. Kuhn, L. H. Flett</i>	310
<i>The Chemist in Sales and Advertising, Paul Slawter</i>	313
<i>What the AIC Can Do for the Government Chemist,</i> Dr. J. David Reid, F.A.I.C. ....	317
<i>What the AIC Can Do for the Industrial Chemist,</i> Dr. Simon Miron, F.A.I.C. ....	319
<i>The Chemistry of Intelligence,</i> Edward Podolsky, M.D. ....	322
<i>Council</i> .....	325
<i>Local Chapter News</i> .....	331
<i>Necrology</i> .....	333
<i>For Your Library</i> .....	334
<i>Condensates</i> .....	339
<i>Professional Services</i> .....	321 & 340

## COVER PICTURE

Dr. Lauren B. Hitchcock, who was elected AIC councilor at the 1950 Annual Meeting of THE AMERICAN INSTITUTE OF CHEMISTS, to serve until May, 1953, is director of research and development of National Dairy Products Corporation, and president of National Dairy Research Laboratories, Inc., 23 Park Avenue, New York 17, N.Y., and Oakdale, Long Island, New York.

He was born in Paris, France, in 1900 (his parents were U.S. citizens). He was educated at Massachusetts Institute of Technology, from which he received the S.B., S.M., and Sc.D. degrees. After a year with H. P. Hood and Sons, he served as officer in the U.S. Army for seven years, and then became professor of chemical engineering at the University of Virginia. In 1935, he became a consulting chemical engineer. In 1943, he accepted the position of manager of sales development for Hooker Electrochemical Company at Niagara Falls, N.Y. The following year, he joined the Quaker Oats Company, Chicago, as manager and later vice president in charge of the Chemicals Department, until 1949, when he assumed his present positions.

Dr. Hitchcock is a member of the American Institute of Chemical Engineers, the Electrochemical Society, the American Chemical Society, the National Farm Chemurgic Council, Sigma Si, Alpha Chi Sigma, the Commercial Chemical Development Association, honorary secretary of The Massachusetts Institute of Technology, a member of the board of the Society of Chemical Industry, and a licensed professional engineer in New York and Virginia. He is the author of numerous scientific and professional articles.

## EDITORIAL

# The Utilization of Research Results

**Dr. Albert G. Chenicek**

*Coordinator of Resin Research, Interchemical Corporation, 350 Fifth Ave.,  
New York 1, N. Y.*

**I**S THE utilization of the results of research keeping up to the production of these results? We do not raise this question to discuss whether too little or too much research is being done. Rather it is a questioning of our ability to obtain maximum effectiveness from research as a part of an industrial organization. If we have this ability, then the results will be utilized because they will be productive ones.

We feel that a survey of industry would allow us to arrive at a general affirmative answer to our question. Specific answers for each individual company, however probably would show great variations among them. In those cases where the answer is negative (or even too definitely positive), the reason should be sought.

Putting the results of research to practical use is dependent upon the functioning of management, sales, production, development, and research. If productive research results lag or accumulate, something is wrong with all or part of this organ-

ization. Perhaps the research staff is too large or too small in proportion to the development staff, or in relation to the activities of the company. Research may be carried out on the wrong problems, perhaps indicating lack of proper coordination with sales or production. Results are obtained, to be sure, but not productive ones. Or again, management may not be willing or able to risk the capital necessary for a new development. These faults, and other similar ones, decrease the chances of effectively utilizing the results of research. They should be corrected where they are found to exist.

---

### Graduate Fellowship Available

The James S. Kemper Foundation announces that it is offering a graduate fellowship in Industrial Hygiene Engineering at Harvard University. Applications should be sent to H. L. Kennicott, executive secretary of the Foundation, at the Mutual Insurance Building, Chicago 40, Illinois.

### Anniversary Celebration

The Connecticut Agricultural Experiment Station, New Haven, Conn., will celebrate its 75th Anniversary, September 28th and 29th, at the Station's headquarters at 123 Huntington Street, New Haven. Invitations have gone out to some 3,000 scientists, agriculturists, government officials, universities, experiment stations and industry. Open House for the delegates and the public will be held the first day. Speakers include Dr. Detlev W. Bronk, president of Johns Hopkins University; Arnold Nicholson, managing editor of *Country Gentleman*; Dr. Edmund W. Sinnott, dean of the Graduate School of Yale University; Dr. George O. Curme, Jr., vice president of Union Carbide and Carbon Corporation; Dr. Selman W. Waksman, New Jersey Agricultural Experiment Station; Dr. Alexander Wetmore, secretary of the Smithsonian Institution, and Dr. Elvin C. Stakman, chief of the Division of Plant Pathology and Botany, University of Minnesota.

### Industrial Tour of the World

Dr. Donald F. Othmer, F.A.I.C., head of the Department of Chemical Engineering, at The Polytechnic Institute of Brooklyn, New York, is taking a round-the-world trip this summer to bring American technical knowledge to many foreign countries.

Begun on May 31st, when he arrived in Honolulu to discuss the industrialization of Hawaii, his itinerary has included stops in Tokyo, Hong Kong, Manila, Calcutta, Bombay, Nairobi, Johannesburg, and Durban. In India, Dr. Othmer discussed the manufacture of penicillin, and conferred on the construction of diesel engines. Speaking to the Ahmedabad Textile Research Association, he declared that if India attempts to follow the lead of Western development in research, it would be wasteful owing to the head start of Western technology. India must develop her own natural resources and thus supplement the goods she is unable to purchase.

Dr. Othmer prepared six papers to be delivered before the International Congress for Agricultural Industries in Brussels, Belgium. In Madrid, he will inspect plants in the plastics and pigment industries. In Sweden and Zululand, he discussed the problem of wood wastage. "Nowhere in the world is there as much wood material available for industrial and chemical development as in Natal (S. Africa)," he stated in an interview in the Natal Mercury.

His globe-girdling tour will be concluded by an extended stay in England, where he will be consulted by the distillation industry.

# The Chemists' Responsibility as a Professional Man

Dr. W. E. Kuhn, F.A.I.C.

*Manager, Technical & Research Division, The Texas Company*

(Presented on the occasion of the award of the New York Chapter's Honor Scroll to Dr. Kuhn.)

MUCH has been said about the professional status of the chemist. Prolific and profuse statements have been made and written on the responsibility of industry for the improvement of the professional status of the chemist. Reasons are tabulated, proposed bases are outlined, facts and figures are quoted. The attainment of professional stature, however, also involves the acquisition of certain grave responsibilities. Let us take stock of the progress made, and of our present status, but above all, of ourselves and our thinking.

A profession is recognized on the basis of the action of those who are active in it. It will be held in high esteem because of the recognition given by others to the character and integrity of those who represent it. It is, therefore, timely for us to look at ourselves as chemists and, may I say, to more fully emulate what we preach.

Technical knowledge and experience are basic requirements of the chemist. These can be acquired, but their acquisition is only the beginning of the story. Let us not place

chemistry, and especially the chemist himself, in the class of a commodity—something that is to be traded, bought and sold, used and discarded like a piece of office furniture. We must go a step further. Organizations function, professions are recognized, in fact, society is maintained because of the people in it. If our profession gains recognition, if it functions, it will be because of the individual chemists in it. The chemist has a service—an exceedingly valuable service to offer. Those who seek the service will examine the effectiveness, the form, and, in an endeavor to anticipate possible results, the methods employed by him. He must deliver with confidence, with dignity, with integrity, and combined with all that, with effectiveness. A chemist's confidence should come first from his years of training and from the successful experience acquired in practicing his profession. One might say, it must be self-confidence because this is one of the evidences of initiative and usually an indication of enthusiasm for one's work. Without confidence, decisions are seldom forth-



coming. His dignity arises from many complex factors which include early training, associations, recognition of basic rights and principles, especially those of others. Preservation and recognition of the rights of others play a large part in this quality of human nature. Integrity is basic. It is the life blood of scientific investigations. It incorporates honesty to oneself as well as to others.

#### **Effectiveness**

Effectiveness I have placed last in the group and I wish to dwell on it a moment, since it is here that one is prone to be weak. The chemist is looked upon as one with expert knowledge in his field of science. In the case of the able scientist, I would like to define knowledge as the ability to pull facts out of confusion. If he has been effective in assembling his *facts*, he then faces the task of adequately transmitting an understanding of them, and, in some cases, the conclusions based on them to others. The transmission of this information in a clear, concise form and in a manner understandable to others is a practical accomplishment of tremendous value. It can be developed, it can be acquired, but it takes more than merely scientific study to do so. All of us need to give attention to our methods of expressing scientific facts, to our methods of describing our accomplishments and our failures, and to our services. Transmission of information to others, regardless of our position, should take top priority.

Mastering the ability to transmit information will invariably awaken a sense of professional responsibility. This responsibility must exist on the job, at technical meetings, at conferences and discussions with our colleagues, and in all of our contacts with society. No society or organization can carry its proper share of the burden without the active participation and cooperation of its individual members. As chemists, our conduct reflects directly on the profession. The younger people look to many of us for guidance. Collectively and as individuals, we have an obligation to stimulate and develop a better understanding of the responsibilities of the chemist and of the profession as a force in industry and in the economic and social welfare of the nation. In so doing, we must always remember that another person's good opinion of the chemist and his profession is something to live up to and not to lean on.

#### **Legislative Trends**

In this fast moving world of today, our profession is confronted with trends in thinking and broad basic movements in legislation. Some of these changing conditions are instituted with the avowed motive of improving our status. We do, however, need to examine the patterns being outlined because they may remedy surface complaints or inequalities and leave the real grievance to fester. Neither you nor I want socialism—



## THE CHEMIST'S RESPONSIBILITY . . .

at least, that is what we say. How carefully are we actually watching the trend? In my opinion, we must be constantly on the alert to avoid the regimentation of the chemist. I am sure that most of you remember the Kilgore Bill of 1943, a sweepingly comprehensive bill that would have regimented our whole national economy, and from the viewpoint of science would be chaotic in its results. That was an instance where the entire country would have gotten regimentation in certain spheres of activity all at once. Let us not relax and get it piecemeal instead. Students of socialism tell us that controllism is a back road to a socialistic economy. The simplest and easiest way to establish control of our economy and our freedom of effort would be the passing of laws which establish specific control powers. It must be remembered that you cannot legislate the welfare of a profession, ours or any other. An apparent, immediate gain may have many implications and may mask a long range inherent danger so subtly incorporated as to be unnoticed until too late. As chemists and scientists, we are trained to formulate our problems with sufficient clarity to enable us to visualize the goal clearly. The road to this goal requires the assembling of facts, a careful scrutiny of them and their logical treatment. I urge that this same careful scrutiny and considera-

tion be applied to the proposals to control and regiment our profession and the people in it. Remember that it is inestimably easier to increase than to decrease controls.

In this connection, mention should probably be made of the National Science Foundation Bill that has recently been signed by the President of the United States. This law provides that the Director of the Foundation is to be an appointee of the President. It is to be hoped that this appointment will be made with a minimum amount of political influence. The selection of a qualified, highly respected scientist for this position is most important. He should be respected by all of us for his scientific integrity. It is hoped that one of his aims will be the improvement of the status of the scientist by means other than regimentation or control measures.

There is another phase of thinking on the part of our political scientists that warrants careful analysis on our part. It relates to a phase of government sponsored research in colleges and universities. Much, of course, can be said about the tremendous tax-supported research program in this country today—a research activity that, like our national administration, does not work on a balanced budget. Do not misinterpret or misunderstand my attitude. I am a firm believer in some phase of tax-supported research. The subjects of the investi-

gations as well as the goals should be carefully chosen. The direction of the work should be by able technical men selected for their ability as scientists and not as politicians. To cite an example: In my opinion, the research work of the National Advisory Committee for Aeronautics (NACA) constitutes a justified tax-supported group of projects, directed by able technical men who are doing an outstanding job. This is a case where our national security is at stake and where a modern government research team is not competing with privately financed industrial research. Government subsidy of research in fields of applied science in competition with adequately handled industrial research efforts is unwarranted.

The government is making funds available to sponsor and subsidize research in our universities and colleges. Before we pass judgment, let us reflect a moment on the fact that the primary function of an educational institution is to afford young men and women the opportunity to equip themselves with the knowledge and the character to enable them to take their places in society. It is an important period for them, and their thinking and character are markedly influenced during this period. I think it is important that the type of research allocated to such institutions be problems of a nature that are not veiled in secrecy. Training, educating, and building character in our young

scientists today under a philosophy of secrecy and prohibition of free interchange of ideas in an atmosphere where a cloak of suspicion is thrust over scientific work may have an all too important effect and influence on our young people to cast the consideration of the situation aside casually. There is a place for this work demanding secrecy, but it is in the hands of mature individuals and in government research laboratories—not in the hands of students in the departments of sciences of educational institutions. Assign it to the areas where it belongs. It is the task of universities and colleges to teach the fundamentals of our basic sciences and to advance the knowledge of the fundamentals in the field. To do this we need good healthy discussions and interchange of ideas and not scientific isolation among individuals and groups of individuals. If a climate of scientific isolation is created in our thinking, our universities and colleges cannot function effectively. The amount of federal funds derived from taxes and granted to universities and colleges has grown rapidly in the last few years. In fact, the funds have been made available almost for the asking. As this large-scale tax-supported operation increases, there cannot help but be a trend toward federal supervision preceding attempted control. If we are not careful, we will be sponsoring an unofficial recall of the Bill of Rights.

We would no longer have rights. Perhaps, instead, we would be granted privileges that could be changed or revoked at will. As members of a profession, we have an obligation to those who are being trained to follow us in our professional fields, and we cannot overlook the atmosphere. It must not be permitted to become a stifling one. In turn, however, we as individuals and industry, individually or as a unit, have a problem that becomes very apparent. We must realize that we have an ever increasing responsibility to support basic research in our universities.

Robert W. King offers one proposal for the individual in his article in the June 6, 1947, issue of "Science"—"A tax credited plan for re-establishing private support of pure science." King proposes that funds provided to colleges and universities for fundamental research be deducted directly from *income taxes*, rather than from taxable income. The scheme avoids bureaucratic dissipation of funds collected from the taxpayer only part of which is ultimately provided for research work at the scientist's level. Industry, too, is moving ahead along constructive lines, but slowly.

The chemists of our nation under an atmosphere of individual freedom, which was the backbone of the creation of this nation, have done a tremendous and important job—a job that has benefited every one of us in

many ways. It has raised our standard of living. By advancements and inventions under the protection of our patent system, it has brought us more conveniences and pleasures and has increased productivity. Every chemist has responsibilities. They are manifold. There is one in particular, however, of which he should be ever mindful and that is his responsibility to his associates and to his profession. There may be times when suspended judgment is wise, but in the case of legislation and regimentation proposals, one must not allow the psychological moment to pass. Remember you cannot reverse time. Time is not a commodity that can be produced or stored. If we are to advance both ourselves as chemists and our profession as such, we must be wise investors of time and talent.



### Goodyear Appointments

Dr. R. P. Dinsmore, F.A.I.C., vice president in charge of research and development, Goodyear Tire and Rubber Company, announces that C. R. Washburn has been appointed technical superintendent of Goodyear's Los Angeles, Calif., plant. Until August first, Mr. Washburn was technical superintendent at the company's Topeka, Kansas, operation. L. H. Bennett, chief chemist at Topeka, will succeed Mr. Washburn. In turn, Mr. Bennett will be succeeded by L. D. Treleaven.

## Presentation of Honor Scroll to Dr. Kuhn

President Lawrence H. Flett, AIC



Dr. Wayne E. Kuhn

**T**HE AMERICAN INSTITUTE OF CHEMISTS is concerned with chemists rather than with chemistry. In a group like the INSTITUTE, there are many schools of thought. There are many who feel that the chemist

does not receive adequate recognition for his contribution to the comfort and advance of society. Many others feel that the work of the chemist is very well-recognized. While he does not suffer the blatant publicity of a

## PRESENTATION OF HONOR SCROLL . . .

public figure, he can make headlines any time he wishes to say what he is doing or what he is going to do. This latter group is more concerned with helping the chemist who is headed for failure than with further publicizing the successful chemist.

Meetings of this type serve both groups, because they recognize personal accomplishment, and because they help us to understand the factors which lead to success in the chemical field.

More chemists fail because of lack of professional knowledge than because of lack of technical knowledge. The members of the INSTITUTE who are interested in the professional side of their work have been the leaders in their profession, and the INSTITUTE is proud of their success.

Methods of doing research progress and are just as changeable as the knowledge of chemistry. Over the past thirty years, there have been three rather distinct progressive changes in research methods. The days when outstanding chemical advances were made in kitchen laboratories have passed. In this gasoline age, the white ivory tower went out of existence with the little red schoolhouse. Chemists can no longer work as individuals in the mighty new developments which are taking place in this chemical world. More skill is required in a single development than is possessed by any single individual.

Great developments require even

more than the well-organized work of a group of chemical specialists. The modern chemical project requires the coordination of many scientists working in different fields. A successful project in the field of chemistry requires the integrated ingenuity of research, engineering, technical service, sales and management.

This revolution of progress does not come without problems, and more than ever we are faced with the necessity of not losing sight of the names of chemists, because genius thrives on that recognition.

The new method of carrying out research is as fresh as the Spring of 1950. It has a future beyond imagination. Its guiding genius has passed from the man in the white coat shaking a test tube to the executive who can coordinate the innumerable functions necessary to successful progress.

Wayne Edward Kuhn is such an individual. Editor, lecturer, publicizer and pioneer of the future, he has been an exemplary member of the INSTITUTE. He has been particularly generous in his help and advice to the younger chemists. His discussions of the problems in the petroleum field have been made with a clarity which has contributed heavily to progress in that field. The men who work with him have become well-known in the field of science.

The INSTITUTE takes pride in its unique ability to recognize the great contributions to chemistry which

take place outside of the laboratory. It is a privilege to be able to present the Honor Award of the New York Chapter of THE AMERICAN INSTITUTE OF CHEMISTS to Wayne Edward Kuhn.

The award is made according to the citation:

"In recognition of his tireless efforts in advancing the chemical profession, by writing and lecturing, by discussion and effective organization. His leadership has also contributed greatly to technical advances in the field of petroleum chemistry."



### Research Progress in Fifty Years

At the dedication of the new four-story, three-wing, laboratory of the Sterling-Winthrop Research Institute, in Rensselaer, N. Y., May 17th and 18th, James Hill, Jr., president of Sterling Drug, Inc., pointed out the growth of chemical research in his firm during the past fifty years:

"When our business was established exactly half a century ago, research by industry was the exception rather than the rule. When . . . the first Pure Food and Drug Act was passed June 30, 1906, drug manufacturers took first steps in research by installing procedures to assure the purity, uniformity and potency of their products. Sterling became really active in research at the end of the first World War. Then the United

States had to acquire the know-how for manufacturing many things previously imported from abroad, particularly pharmaceuticals and fine chemicals.

"In the twenty-one year period between wars, this country expanded its medical research establishment beyond that of any other nation in the world. When World War II started and Japan entered the war, supplies of quinine were shut off. Then the research heads of the then Winthrop Chemical Company in Rensselaer were able to work out the formula for the antimalarial Atabrine and produce it in vast quantities from domestic intermediates . . . Subsequently, it was our research also that developed the new and even better weapon against malaria, Aralen."

The Sterling-Winthrop Research Institute was formed in 1946 to "centralize and make more effective all the major research activities of our more than fifty divisions and subsidiaries in fifty-two nations." In 1947, construction of the new laboratory for the Institute was started. The Research Institute is directed by Dr. Maurice L. Tainter.

---

### Silkes Forms Book Agency

Bernard Silkes, F.A.I.C., has opened his own technical and scientific book agency at 804 E. Pittsburgh Boulevard, McKeesport, Pennsylvania, where books of all major publishers may be obtained.



# The Chemist in Sales and Advertising

Paul Slawter

*Vice President, The House of J. Hayden Twiss, New York, N.Y.*

(One of a series of papers prepared by members of, and reviewed before publication by, the Chemists' Advisory Committee, New York Chapter, AIC.)

**I**F YOU have been cocking an eye over your test tubes at the well-dressed men who walk in and out of the doors marked "Sales" and "Advertising," and have been saying to yourself, "Now that's for me," let us stop a minute and take a look inside those doors.

Chemical Sales and Advertising Sales are each in themselves very specialized fields. As such, each requires specialized knowledge, plus the natural talent for sales or advertising. Too many chemists think that since they do know chemistry thoroughly, all they need is an example to follow, a salesman's kit and Presto! they're salesmen!

It is constantly debated as to whether a chemical salesman should be a chemist who learns to sell, or a salesman who learns enough chemistry to sell. The only answer is, of course, that it depends upon what you are selling. If the products are a line of established pharmaceuticals and you must sell the name rather than the product, then the salesman must be a salesman first and a chemist second. But, if the product is a

whole line of petroleum and oil products and each customer must have a specific type to meet his needs, then the salesman must be a combination chemist, trouble-shooter, and salesman. You can see that in the former case it would be more advisable to hire a salesman and fill in any chemical background needed. But in the latter, the emphasis is on the technical knowledge, rather than the sales ability alone.

Let us say you work for a chemical house that manufactures potash and allied products. And then let us follow one of those men through the door marked "Sales." Remember, first the basic facts about your job in chemistry. You work regular hours, on a specific job, with maybe one boss over you. You know your job fairly well, and crises are minor ones. Now you look at that salesman. He is well-dressed, affable, always coming and going. But what goes on behind that door? That salesman is a middle-man—he is the only contact between the manufacturer and the consumer. In the office, he must handle his customers' complaints,



their inquiries, etc. His territory is assigned and a certain part of his working hours are spent calling on customers and prospects. In one place, the customer is a stickler for technical details and the salesman must be the efficient, chemical salesman for his firm. In the next place, Mr. Customer does not want to bother with the manufacturing details, he wants to sit and talk about the golf game he played last week. And the salesman must be a guy who incidentally sells potash, but who is mainly interested in the intricacies of golf. You say, of course it is assumed that a salesman must cope with all kinds of people. But, basically, that is the prime factor in a good or bad salesman. As a chemist, you have met very few people professionally, mainly your interests have been on the technical side. That chameleon quality is very rare in people as a whole, and in chemists—as only a fraction of the potential salesmen—it is even rarer. And it is practically impossible to acquire that salesman trait—either you have it or you don't. So think twice before you jump at changing your lab stool for a car on the not-so-open road; your one boss for a hundred bosses; your confident knowledge for an endless round of problems and complaints; your steady pay-check for uncertain commissions.

### **Chemical Advertising**

Now, let us look at the big brother of Sales—Advertising. Stripped to

elementals, a chemist is a factual person, a scientist. He works with known quantities and usually can plot reactions. An advertising man always deals with the unknown. He has a product to sell with words—and the right sales combinations of those words is influenced by countless unpredictable things. He must be able to hit the nail on the head, at the right time, in the right place, and with the right message. All of which takes what the Madison Avenue boys call "Vision." There are other names for it, the best of which is probably "Advertising Perspective." Here is a horse. As a technician, in describing it, you say it has four legs, a body, a head, a mane of white and a matching tail. As an advertising man, you need completely different words. One chemist, trying to get into advertising, described a horse as an animal, which "from the top, looks like a violin." That is advertising perspective. Very few technical people have it, mainly because their education and conditioning have all been pointed in the opposite direction.

In advertising, as in sales, the question of whether you should be a chemist or an advertising man primarily, depends on your job. A man with a medium-sized agency, handling diversified accounts, does a better job if he is an advertising man first. A man with a large agency, who handles only chemical accounts, must

have adequate technical knowledge to do a good job. And a man with a small agency, whose duties include copy and layouts and sundry details, must be a combination of both. A chemist going into advertising has a slim chance of getting into exactly the right job to suit his talents. The combination of the right sort of talent plus the right amount of knowledge for any particular job, is almost always difficult to find.

There are too many misconceptions about advertising and the world of advertising men. Hollywood and best sellers have given not only a warped picture, but also a very narrow one. Advertising is not a round of de luxe luncheons on an expense account and friendly casual conferences with the boss. It is hard work—often a lot of it overtime—constant plugging, and one of the most competitive fields in existence. The ladder to success is steep and the rungs are close together. Advertising men, educated and trained solely for the field, find it so. And you, as a chemist going into the field would find it even more difficult.

### **The Extrovert Chemist**

A chemist recently said, "But there are very successful men in both sales and advertising, who started out as chemists." True, but—and to answer those "buts" you must get a good look at those successful ex-chemists. In the vast majority of the cases, you will find that they are men who

were not suited to the chemical field. Take Joe. He is a graduate chemist, and he works for an advertising agency, handling chemical accounts. He prepares ads for chemical publications, aimed directly at the chemical industry. Because he does know the other side of the picture, the guy who is going to read his ads, Joe is one of the best chemical advertising men in the business. But, take a close look at Joe and you'll easily see that he never would have been a successful chemist. He took a degree in chemistry because he thought the field offered security. At college, he edited the yearbook, wrote for the newspaper, headed a fund-raising project. After a year of working in chemistry, Joe knew he was a misfit in his job, mainly because there was no outlet for his extrovert tendencies. Today, as an advertising man, Joe is a perfect fit.

There are many more like Joe—men who, because of a major or minor talent, or because of personality and temperament, make up the rolls of successful chemical advertising men. But the average chemist, who prefers chemistry as his chosen work, does not make a good advertising man. Nor does he make a good salesman.

Psychologically, it boils down to this. The salesman and advertising man is the extrovert. The chemist is the introvert. Find out first whether your tendencies are toward

extroversion before you go casting envious eyes at the sales and advertising fields. Chances are that if you choose or prefer chemistry and are afraid of rebuffs, that you are an introvert and no amount of training or pep talks will make a salesman or advertising man out of you.

### Egloff in Europe

Dr. Gustav Egloff, Hon. AIC, of Universal Oil Products Company, Chicago, left for Europe on the *Mauritania*, June 24th, to visit England, Scotland, France, Germany, and Italy. His schedule included addresses before the following groups: Second Oil Shale and Cannel Coal Conference, Glasgow, Scotland; the Fourth World Power Conference, London, England; the Societe de Chimie Industrielle, the Association Francaise des Techniciens du Petrole, and the Institut Francais du Petrole, Paris, France; and the Associazione Italiana di Chimica and Unione Petrolifera, Milan and Rome, Italy.

### Research Grants

Twelve new grants for research in the field of nutrition were announced by Dr. E. Gifford Upjohn, president of The National Vitamin Foundation, 150 Broadway, New York, N.Y. The Foundation makes grants-in-aid of research semi-annually on January first and July first of each year.

### Please Note

In the *Directory* of AIC membership, the entry for John B. Calkin (page 32) should read:

Calkin, John B. (F-1945) Chemical Consultant, 500 Fifth Avenue, New York 18, N.Y.; Director, Department of Industrial Cooperation and Associate Professor of Chemical Engineering, University of Maine, Orono, Maine.

Also in the *Directory*, page 82, the degree of "Dr." should have appeared following the name of Albert E. Myers.

In this issue of *THE CHEMIST*, under the section entitled "Council," there is a list of names of persons elected to membership since the *Directory* was printed. Members can keep their *Directories* up-to-date by detaching the pages of new elections as they appear each month, and inserting them in the back of the *Directory*.

### Snell Plans New Laboratories

Dr. Foster Dee Snell, former AIC president, and president of Foster D. Snell, Inc., New York, N.Y., has announced the letting of contracts for the first unit of their laboratories in Bainbridge, New York. The project does not envisage any change in their activities in New York. It provides for future expansion, where separate departments can be transferred from New York to relieve congestion in their present building at 29 W. 15th Street in New York.

# What the AIC Can Do for the Government Chemist

Dr. J. David Reid, F.A.I.C.

*Chairman, Louisiana Chapter, AIC.*

(Presented at the Panel Discussion, "The Worth of the AIC and What to Do About It," at the AIC Breakfast, Oklahoma City, Okla., Dec. 10, 1949.)

THE AIC can do one thing for the Government Chemist. It can take a stand and express an opinion on controversial matters which the government chemist cannot do. By law, the government worker is specifically forbidden active participation in politics. By Departmental Regulations he may not address groups on controversial subjects without specific permission. As a servant of the people, it is quite fair that the government worker should not try to influence public opinion, particularly if the impression is given that he speaks for the Government. (Incidentally, the opinions expressed at this Breakfast are my own and not necessarily representative of other government workers.) So far as politics go, the government worker has, of course, the right to vote for whomever he wishes. But there is no large group, corresponding to the political party, through which the government chemist can express himself on matters of interest to the profession of chemistry. This is a need which the Institute could fill admirably if it would.

It is my impression that the AIC

may be becoming somewhat dormant. I think we are gaining in membership, due perhaps to the vigorous efforts of President Flett, but we must not lose interest. As an organization we must not become sleek and lazy. The AIC is developing a friendly and intellectual little journal in *THE CHEMIST*. It is sponsoring interesting and helpful articles and meetings. But there are no inspired crusades going on. This latter is the sort of thing which keeps members because they want to lend their aid to forwarding an ideal rather than belonging to a social club.

Let us touch upon some of the controversial subjects which might be considered. Professional status and licensing are old but still good and of interest to most chemists. So far I can see, the chemist is neither fish nor fowl. He has neither the name nor the game. The uneducated union man who works with his hands often gets more money; the professional man with comparable education gets both money and recognition. The government chemist has not too much to complain about on the basis of

money, particularly in the lower brackets. (That is, of course, in comparison to other chemists only.) The pay of the young chemist in the government is quite comparable to that of similar workers in industry. In the higher brackets, chemists, as in most higher government posts, receive pay which is much too low. A pay raise has recently been granted. The pay of a Bureau Chief, who directs the activities of perhaps a thousand people and the expenditure of seven or eight million dollars is now about \$10,000 per year and may be raised to a possible 12 or 13 thousand. Although this pay raise did not greatly raise the pay of the average chemist it did remove the designation "professional" from his job title.

Before the classification act of 1949, a chemist was in the Professional Service and a man who had not yet obtained a degree was a Sub-professional. The two other types of service were the CPC which included guards, carpenters, mechanics and dish-washers, and the CAF or Clerical, Administrative and Fiscal. The CPC Service classification has been retained, but the "professional men," if we may so designate the chemist, has been thrown in with the CAF and the whole thing termed General Service. In other words, a beginning chemist, instead of being a Chemist, Professional Grade 1, is now a Chemist, General Service, Grade 5. This is a step away from the professional recognition of the chemist

and is the type of thing with which the AIC might well concern itself.

There are lots of controversial questions of interest to chemists. National Security versus Secrecy in Atomic Work is one. Academic freedom is another. Of particular interest to government chemists, for example, is the fact that there is no security of tenure, since this depends from year to year on the Congress coupled with the fact that there is no employment insurance. These are just casual subjects.

The point I would like to make is that such things should be the concern of the INSTITUTE. I would like to see the INSTITUTE become more alive to the questions of the day, inasmuch as they concern chemists. Bring them to our attention in THE CHEMIST where they may be debated. Enclose a stamped card with each issue to take a poll of membership opinion on the particular thing under consideration.\* Only in this way can the INSTITUTE take a stand for its members on each question with the assurance of having its fingers on the pulse of the chemist and of really acting as his living voice in National affairs.

---

Dr. Gustav Egloff, Hon. AIC, has been appointed, by Mayor Kennelly of Chicago, a member of the Commission on School Board Nominations.

---

\* Postal regulations do not permit enclosures in second class mail.—Ed.

# What The AIC Can Do for the Industrial Chemist

**Dr. Simon Miron, F.A.I.C.**

*Pan American Refining Corporation, Texas City, Texas*

(Presented at the Panel Discussion, "The Worth of the AIC and What to Do About It," at the AIC Breakfast, Oklahoma City, Okla., Dec. 10, 1949.)

**P**ERHAPS I should make it clear that I am attempting to present the viewpoint of the industrial chemist rather than the purely industrial outlook, inasmuch as my function is that of a research chemist in industry rather than an executive. But perhaps this viewpoint is more pertinent since it is primarily the chemist which the AIC seeks to help.

All of us here have been subjected recently to a deluge of literature dealing with the professional and economic status of the chemist, so it is hardly necessary for me to emphasize what the chief aims of the AIC are. It is my frank opinion, however, that because more chemists are employed in industrial work than in teaching or in Civil Service, the chemists in industry provide the AIC with its most fertile ground for service.

Briefly, why is the average chemist in industry so dissatisfied with his lot? Is it primarily the economic point of view? The enlightening surveys on economic status carried out both by the ACS and the AIC in recent years have shown that the average industrial chemist with, say a

bachelor's degree in chemistry and perhaps four to five years of industrial experience, usually receives a smaller monthly salary than a first-class welder or insulator. Although we all admit that "money isn't everything," it is still somewhat disconcerting for the chemist, who probably has struggled to acquire his education and training to a much greater degree than the skilled craftsman, to see the well-salaried laborer driving to work in a shiny new car while he is nursing along his battered automobile or taking the bus to work.

Frankly, I believe the economic factor is the greatest bone of contention which the average industrial chemist has. But it is not the only cause for his dissatisfaction.

Granted, for the moment, that there were no economic problem, the industrial chemist would still be unhappy, if he were not looked upon or treated as a professional man. There are numerous establishments where the chemist is considered merely another class of laborer.

The AIC has already accomplished



a great deal to improve the professional and economic status of the chemist. What to do further is part of the argument in this panel discussion. Were I possessed of the wisdom of Solomon, I should, perhaps, be able to furnish a reasonable answer to this problem, but being merely an industrial research chemist myself, I can only offer some suggestions.

I believe that the AIC can accomplish the most by continuing and greatly amplifying its educational program. The needs of the chemist should be brought more clearly to the attention of the executives in industry. At the same time, however, the chemist must be more realistically educated as to the needs of industry. It is perhaps, in this connection that the AIC can accomplish much by a program designed to bring the chemist and his employer to a better understanding of each others aims and philosophies.

It is an undeniable fact that the average chemist released from school into industrial work is totally unprepared for his new endeavor. While he may be technically and scientifically ready for industrial work, he soon becomes painfully aware that working cooperatively with others toward a justifiable economic goal requires a great deal more than merely scientific and technological skill. I believe that many young chemists fail in their first year or two of industrial work by their inability to adjust

themselves to a new outlook and inability to cope with the personal and personnel problems with which they are confronted.

The universities can not be entirely blamed for their failure to properly instill in their graduates the industrial viewpoint and to prepare them for some of the pitfalls they may encounter. In this age of rapidly expanding scientific knowledge it is almost all the average university can do to prepare its chemistry majors with a sufficient scientific background. In this regard, I believe the AIC could help by an informational program planned to educate both prospective employees and prospective employers. The employer of chemists must be made to understand that he stands far more to gain by keeping his chemists contented than he stands to lose in increased salaries and better working conditions; and the chemist employed in industry must be taught to realize that he owes far more to his employer than simply appearing for work forty hours each week and carrying out all assignments to the barest minimum.

In addition, the AIC can help to improve the industrial chemist's professional stature by educating the public as to what the chemist in industry is doing for the benefit of society or to ease the burden of everyday life. "Better things for better living through chemistry" is the well-publi-



cized slogan of the largest chemical concern in this country. Perhaps a more appropriate slogan would be "Better things for better living through the work of the chemist."

### Biological Research Chemicals

Dr. Frederick A. Hessel, F.A.I.C., president of the Montclair Research Corporation, Montclair, New Jersey, announces that the corporation has recently entered the field of fine chemical production for biological and medical research, and is now producing a number of tetrazolium salts. The salts available are 2,3,5-triphenyl tetrazolium chloride, neo-tetrazolium chloride [p,p'-diphenylene-bis-2-(3,5-diphenyl tetrazolium chloride)] and neotetrazolium phosphate. Information may be obtained from the Corporation or from Amend Drug and Chemical Co., 117-119 E. 24th St., New York 10, N.Y., the distributing agents.

### McCleary Appointed

Dr. R. H. Kienle, F.A.I.C., director of application research, American Cyanamid Company, Calco Chemical Division, Bound Brook, N.J., announces that Dr. H. R. McCleary, F.A.I.C., has been appointed sectional director of the Application Research Department. Dr. McCleary joined the Calco Physical Chemical Research staff in 1941, after he had obtained the Ph.D. degree from Columbia University.

### Rugar Presents Medal

Dr. G. F. Rugar, chairman of the Ohio Chapter, AIC, presented a medal for meritorious achievement in chemistry to Dale Richey, of Hiram College, Hiram, Ohio, at the commencement, held on June 11th, celebrating the centennial of the college.



**R. S. ARIES  
& Associates**

*Chemical Engineers  
And Economists*

#### COMMERCIAL CHEMICAL DEVELOPMENT

Process Analysis • Market Research  
Surveys — Technical & Economic  
Evaluations • Application Research  
Product Development

400 Madison Ave. New York 17, N.Y.  
ELdorado 5-1430

### Sponsored Industrial Research



Chicago, Ill. 13791 S. Ave. "O"  
Madison, Wis. 323 W. Gorham St.  
New York, N. Y. 50 E. 41st St.

### Chemical Translations

by mail

Werner Jacobson, B.S., M.S., M.A.I.C.

### Translator

German, French, Spanish, Portuguese,  
Italian, Swedish, Russian, Chinese

MICROFILMS ACCEPTED

334 South Mozart Street Chicago 12, Illinois

# The Chemistry of Intelligence

Edward Podolsky, M.D.

183 Avenue O, Brooklyn 4, New York

(A new research field for chemists.)

**H**UMAN intelligent behavior depends upon several well-defined chemical factors. Among the most important of these is oxygen. Some years ago, Dr. Lawson gave five subjects tests for speed of sorting, speed of tapping, accuracy in aiming, substitutions, analogies, distorted sentences, and the same-opposite test. He noticed that the average alterations in behavior were not significant until the per cent of oxygen reached fifty per cent of normal, but at that point the changes were rapid and pronounced. All of the subjects noticed difficulty in reading at the lower percentages of oxygen, due chiefly to impaired comprehension and concentration as well as to physiological disturbances such as headaches.

Similarly, Dr. Tanaka found by experimentation that the deficiency in mental and physical work is due chiefly to lack of oxygen; that there were great individual differences; that the effect is more marked in mental than physical work, and that there is a critical point where a sudden change occurs (at about 428 mm. of mercury or an altitude of 15,000 feet) and

that the quality of the work is most affected—i.e., greater fluctuations occur in the accuracy of performance than in speed.

The most recent work on the chemistry of oxygen and intelligence was done by Dr. S. H. Kraines, who subjected thirty persons to tests involving mental activity with decreasing oxygen availability. His results are thus summarized:

There is a definite drop in intelligence (as measured by the army alpha test) while breathing 10 per cent oxygen (corresponding to an altitude of 20,000 feet). The decrease in score varies greatly with the subject, varying from a minus 1 to a minus 54. Only one subject increased his score under diminished oxygen intake. The first part of the test showed no loss in score under oxygen lack in spite of the increased number of errors. This is attributed to the respiratory and circulatory adjustments which compensated for lack of oxygen. The subject with the highest scores showed the greatest drop in score under oxygen lack. The increase in number of errors in general

paralleled the decrease in score. Subjective evaluations of one's own abilities while under low oxygen tensions are wholly inadequate. Many subjects who thought there was little effect, did poorly, and vice versa.

The amount of carbon dioxide in the blood also exerts appreciable effects on intelligence. A simple experiment is the following: Pant for about three minutes. This increases the amount of carbon dioxide in the blood, and with the increase a peculiar thing happens. You become "fuzzy in the head." The brain cannot function properly when it has too much carbon dioxide to contend with.

Drs. M. Margaria, J. B. S. Haldane, and J. Barcroft, in order to test the effects of increased carbon dioxide on mental activity, spent about twenty minutes in an atmosphere of 7.2 per cent carbon dioxide, which is rather high. This is what happened. Drs. Margaria and Haldane suffered from headaches for the rest of the day. Dr. Barcroft suffered from symptoms of mental fatigue. He was unable to concentrate or even listen to conversation without an effort. He was unable to read a newspaper and understand what he was reading. He was so fatigued that he felt like going to bed for the week-end. His mind was almost a total blank.

### Psychochemistry

Dr. Walter Freeman, a foremost student of brain function a few years ago, read a paper before the Section of Nervous and Mental Diseases of the American Medical Association in which he discussed the implications of psychochemistry. Psychochemistry is a very recent science. It involves the chemical evaluation of the mental processes and will no doubt soon take its place besides psychology and psychoanalysis in enabling us to understand how the brain and mind work.

Mentation, or thinking, is essentially a rather complicated chemical process which involves, among other things, the consideration of electric potential, oxidation-reduction, aggregation and dispersion, hydration and dehydration, sodium-potassium, calcium-potassium, and calcium-magnesium ratios, and hydrogen ion concentration. These must function within normal limits, and too great a shift of any of these in either direction is manifested in disordered function of the brain.

Perhaps the two main chemical processes involved in brain function are the utilization of sugar and oxygen. Both are found in the chemical make-up of the brain by its blood vessels. Sugar requires oxygen for its conversion into lactic acid, in which form it is still further broken down. Required also for this essential chemical reaction are iron, manganese, and copper, which are found in consider-

able quantities in the brain.

The chemistry of intelligence is by no means completely understood. However, it is known that sugar and oxygen appear to be the main requisites, with the catalysts, iron, copper, and manganese to help the chemical reaction along. Thinking and intelligence, therefore, may be said to depend, among other factors, upon the breaking down of sugar in the brain in the presence of oxygen. If either of these two elements is notably decreased, stupidity is the inevitable result.

Dr. Albert P. Matthews, professor of biochemistry at the University of Cincinnati, has speculated interestingly on the chemistry of thought:

"Are our thoughts also at the bottom electrical? Wherever a nerve impulse sweeps over, it is accompanied by an electrical disturbance, and this disturbance is the surest sign of life. When the nerve impulses play back and forth over the commissure of the brain, they are accompanied by this pale lightning of the negative variation. Is that pale lightning what we recognize as consciousness in ourselves? It would seem that there must be some psychic element in every electron if the atoms are made of electrons. There must be some psychic disturbance in every union of hydrogen and oxygen to make water and in every pulse of light and of wireless telegraphy. When an electron moves it generates a magnetic

field; does it also generate a psychic field?"

These thoughts go into the atomic chemistry of mentation, a field which has as yet not been tapped. However, some interesting beginnings are being made. Perhaps the electroencephalograph will give us a better insight into the electrochemical basis of intelligence.

### SCI Elections

The American Section of the Society of Chemical Industry announces that its officers for 1950-1951 are: Honorary Chairman, Gustavus J. Esselen, F.A.I.C., Esselen Research Division, U.S. Testing Company, Boston, Mass.; Honorary Vice Chairman, Robert C. Swain, F.A.I.C., American Cyanamid Company, N.Y.; Honorary Secretary, Frederick W. Adams, Spool Cotton Company, New York, N.Y.; Honorary Treasurer, Walter J. Baeza, F.A.I.C., Industrial Research Company, New York, N.Y., and Honorary Comptroller, Robert Heggie, American Chicle Company, Long Island City, N.Y. The Executive Committee members are: L. W. Bass, F.A.I.C., J. L. Bennett, Cecil L. Brown, F.A.I.C., Thomas S. Carswell, Lawrence H. Flett, F.A.I.C., Lauren B. Hitchcock, F.A.I.C., G. E. Holbrook, H. B. McClure, F.A.I.C., Randolph T. Major, F.A.I.C., Robert L. Murray, Clifford F. Rassweiler, F.A.I.C., Raymond Stevens, F.A.I.C., and Archie J. Weith.



## COUNCIL

### OFFICERS

*President*, Lawrence H. Flett  
*President-elect*, Lincoln T. Work

*Secretary*, Lloyd Van Doren  
*Treasurer*, Frederick A. Hessel

### COUNCILORS

Harry Burrell, *New Jersey Chapter*  
C. C. Concannon, *At-Large*  
M. L. Crossley, *At-Large*  
Gustav Egloff, *Chicago Chapter*  
Gustav Egloff, *Past President*  
G. J. Esselen, *At-Large*  
John J. Healy,  
*New England Chapter*  
M. J. Hiler, *Ohio Chapter*  
L. B. Hitchcock, *At-Large*  
H. O. Kauffmann, *Niagara Chapter*  
R. H. Kienle, *At-Large*

Harold A. Levey, *Louisiana Chapter*  
Martin Meyer, *New York Chapter*  
C. P. Neidig, *At-Large*  
L. F. Pierce, *Los Angeles Chapter*  
Donald Price, *At-Large*  
Louis N. Markwood  
*Washington Chapter*  
H. Robinette, *Pennsylvania Chapter*  
Maurice Siegel, *Baltimore Chapter*  
Foster D. Snell, *Past President*  
Florence E. Wall, *At-Large*  
James R. Withrow, *At-Large*

### April Meeting

The 266th meeting of the National Council, AIC, was held April 12, 1950, at 6:00 p.m. at The Chemists' Club, New York, N.Y. President Lawrence H. Flett presided.

The following officers and councilors were present: Messrs. C. A. Amick, L. H. Flett, K. M. Herstein, F. A. Hessel, M. J. Kelley, E. H. Northey, J. J. Pallace, F. D. Snell,

L. Van Doren, J. R. Withrow, and Miss F. E. Wall. Louis Koberlein and V. F. Kimball were present.

The minutes of the preceding meeting were accepted.

President Flett reported that he had attended the first organization meeting of the New England Chapter, at which Honorary Membership was presented to Dr. Gustavus J. Esselen; and the meeting of the

Niagara Chapter at which Honorary Membership was presented to Dr. Alexander Schwarzman.

The President appointed the following committee to assist with registration at the Annual Meeting: Dr. Hessel, chairman; Miss Wall, and Mr. Amick.

He appointed the following Greetings Committee for the Annual Meeting: Dr. Withrow, chairman; Gene Abson, M. R. Bhagwat, C. C. Concannon, M. L. Crossley, L. Hoyt, G. M. Juredine, J. M. McIlvain, C. P. Neidig, D. Price, H. J. Wollner, and the chairmen of all of the Chapters.

The Secretary reported that we now have a total of 2445 members. He announced with regret the death of Monroe J. Bahnsen, F.A.I.C., on February 4th, and the death of Norris R. Kosches, F.A.I.C., a Charter Member, on March 27th.

A letter from the President's Water Resources Policy Commission was presented and referred to the membership though the columns of THE CHEMIST.

Letters from the Secretary and the Chapter Representative of the Los Angeles Chapter were presented. Upon motion, Dr. R. E. Swain, emeritus professor of Stanford University, was unanimously elected to Honorary Membership in the INSTITUTE.

A letter from one of the labora-

tories of a large university was presented. It asked for information found useful by the AIC in raising the professional and economic standards of chemists, stating, "We have been very much intrigued by the progress which the chemists have made through your organization." The Secretary was requested to supply all possible information.

The Spring 1950 issue of *Cenco News Chats* was presented to call the attention of the Council to an article about the AIC and biography of our former president, the late Dr. Henry G. Knight.

Upon motion, the Treasurer's report was accepted.

The report of the Tellers appointed to count the Nomination Ballots was presented.

Dr. Withrow reported as AIC delegate to the Centennial Convocation of the University of Dayton, Ohio, held March 16th.

Dr. Work, chairman of the Program Committee for the Annual Meeting, and Dr. Kelley, chairman of the Arrangements Committee, reported that plans were progressing satisfactorily.

Mr. Herstein announced that the April 26th meeting of the New York Chapter will have for its discussion topic, "How Can the Chemist Improve his Professional Status."

Rev. Pallace reported that the Niagara Chapter had distributed

## COUNCIL

questionnaire's asking for information about pension plans.

Mr. Amick, substituting for Dr. Parker, reported on the activities of the New Jersey Chapter.

The following new members were elected:

### RAISED FROM FELLOW TO LIFE MEMBER

#### Flett, Lawrence H.

*President, THE AMERICAN INSTITUTE OF CHEMISTS.*

#### Northey, Elmore H.

*Administrative Director, American Cyanamid Company, Stamford, Conn.*

#### Van Doren, Lloyd

*Secretary, THE AMERICAN INSTITUTE OF CHEMISTS.*

### REINSTATED TO FELLOW

#### Morris, V. N.

*Technical Director, Industrial Tape Corporation, New Brunswick, N.J.*

### FELLOWS

#### D'Ianni, James D.

*Section Head, Research Department, Synthetic Rubbers & Plastics, Goodyear Tire & Rubber Co., Akron, Ohio.*

#### Dietz, Albert

*Chemist, Standard Ultramarine Company, Huntington, West Virginia.*

#### Faulkner, Seymour

*Chief Engineer & Technical Consultant, E. F. Drew & Company, Boonton, N.J. Consulting & Engineer, Foster Wheeler Corporation, New York, N.Y.*

#### Healy, John J., Jr.

*Assistant General Manager, Merimac Division, Monsanto Chemical Co., Boston 49, Massachusetts.*

#### Hohenstein, W. Peter

*Adjunct Professor of Chemistry, Polytechnic Institute of Brooklyn, Brooklyn, N.Y.*

#### Kaufman, J. V. Richard

*Research Chemist, Technical, U.S. Government, Picatinny Arsenal, Dover, N.J.*

#### Killian, Donald B.

*Manager, Pigments Color Research Section, E. I. du Pont de Nemours, Newark, N.J.*

#### Kip, Charles E.

*Chemist, Research & Control Laboratory, Standard Bleachery & Printing Co., Carlton Hill, N.J.*

#### Lee, William McC.

*Supervisor, Product Development Department, Pennsylvania Salt Mfg. Co., Whitmarsh Research Labs., Philadelphia 18, Pa.*

#### Miller, Robert C.

*Associate Chemist, Chemistry Department, Experimental Station of the Hawaiian Sugar Planters' Association, Honolulu, T. H.*



**Morton, Avery A.**

*Professor of Organic Chemistry,  
Massachusetts Institute of Tech-  
nology, Cambridge, Mass.*

**Neustel, Benjamin C.**

*Professor and Head, Chemistry  
Department, Whitworth College,  
Spokane, Washington.*

**Pedersen, Aksel M.**

*Patent Attorney, Aksel M. Ped-  
ersen Company, Colorado Build-  
ing, Washington, D.C.*

**Phillips, Paul H.**

*Professor of Biochemistry, Uni-  
versity of Wisconsin, Madison 6,  
Wisconsin.*

**Setterstrom, Carl A.**

*Sales Manager, Synthetic Fibers,  
Union Carbide & Carbon Corp-  
oration, New York, N.Y.*

**Fields, Harry**

*Chemist in Charge, Trade Sales  
Paint & Varnish Development,  
Brooklyn Varnish Mfg. Co., Inc.,  
Brooklyn 1, N.Y.*

**Ingram, John T., Jr.**

*Analytical & Testing, The Texas  
Company, Beacon, N.Y.*

**ASSOCIATES****Lyon, William L.**

*Assistant Chemist, Analytical &  
Technical Service Dept., Great  
Lakes Carbon Corp., Morton  
Grove, Illinois.*

**Wheatley, Doris L.**

*Biologist, U. S. Department of  
Agriculture, Beltsville, Maryland.*

**May Meeting**

The 267th meeting of the National Council, AIC, was held May 11, 1950, at 9:30 a.m. at The Hotel New Yorker, New York, N.Y. President Lawrence H. Flett pre-  
sided.

The following officers and coun-  
cilmembers were present: Messrs. H. Bur-  
rell, C. C. Concannon, M. L. Cross-  
ley, G. Egloff, L. H. Flett, K. M.  
Herstein, F. A. Hessel, M. J. Kelley,  
R. E. Kirk, L. N. Markwood, C. P.  
Neidig, E. H. Northey, E. I. Oppel,  
J. J. Pallace, D. Price, H. Robinette,  
F. D. Snell, L. Van Doren, J. R.  
Withrow, L. T. Work, and Miss F.  
E. Wall. Dr. W. J. Murphy and  
V. F. Kimball were present.

The minutes of the preceding meet-  
ing were approved.

President Flett reported that he  
had attended the all-day program of  
the Ohio Chapter, at which Hono-  
rary Membership had been presented  
to Dr. Withrow.

The Secretary reported that we  
now have a total of 2460 members.  
He announced with regret the deaths  
of V. N. Kokatnur, F.A.I.C., on  
April 14th, and of Robert Glenk,  
F.A.I.C., on April second.

The Tellers' Report on the elec-  
tion ballots was presented, which  
showed the election of the following  
officers and councilmembers: President,  
Lawrence H. Flett; President-elect,  
Lincoln T. Work; Secretary, Lloyd  
Van Doren; Treasurer, Frederick A.

## COUNCIL

Hessel, and Councilors, Roy H. Kienle, Lauren B. Hitchcock, and Gustavus J. Esselen.

Mr. Oppel reported as chairman of the Committee on Membership that his committee had obtained slightly under one-hundred new members.

Mr. Neidig reported that news for his department in *THE CHEMIST*, "Local Chapter News," comes in irregularly from the Chapters, but that he will continue to obtain as much as possible for publication each month.

Mr. Concannon stated that he was at the Royal Institute of London a few weeks ago, and he recommended that the INSTITUTE exchange publications.

Dr. Withrow stated that the Ohio Chapter had held its first annual meeting.

Mr. Burrell reported that the New Jersey Chapter had conducted a trip to the plant of the Johns Manville Corporation.

Mr. Robinette reported for the Pennsylvania Chapter, which had recently heard a talk by Dr. J. W. E. Harrison on his experiences in the Food and Drug Administration.

Rev. Pallace reported that the Niagara Chapter had completed its survey of pension plans.

Mr. Markwood reported that the Washington Chapter preferred luncheon meetings to dinner meetings, and that three luncheons were

planned before the end of 1950.

Dr. Egloff stated that the Chicago Chapter emphasized professional topics for its meetings. In October, the Chicago Chapter's Honor Scroll will be presented to Carl Miner.

Mr. Herstein stated that the New York Chapter will present its Honor Scroll to Dr. Wayne E. Kuhn on May 24th.

President Flett commented that "We have in the INSTITUTE the loveliest membership ever gathered together. We have the heads of the great companies, important chemists, and chemists who are training themselves for the future. We have made great progress. Our job is to get to know each other, and to give further thought and study to professional problems."

The following new members were elected:

## FELLOWS

### **Adams, George A.**

*Director, The Langner Laboratory, 130 S. 18th St., Philadelphia, Pa.*

### **Carter, Edgar B.**

*Executive Director of Research, Abbott Labs., North Chicago, Ill.*

### **Friedman, H. Martin**

*Research Director, Emkay Chemical Company, Elizabeth, N.J.*

### **Gaffin, Fisher**

*Technical Sales Representative, J. T. Baker Chemical Co., New York, N. Y.*

**Johnson, Harold Gustav**

*Chemical Engineer, Monsanto Chemical Company, St. Louis 4, Missouri.*

**Katz, Albert Barry**

*Director of Biochemistry, Hackensack Clinical Laboratory, Hackensack, N.J.*

**Lang, Frances Sparks**

*Research Fellow, Atomic Energy Commission; Sponsor, Chemistry Department, New York University, Washington Square, New York, N.Y.*

**Lesco, Felix Anthony**

*Chemistry Instructor, City of Berlin, New Hampshire.*

**Menke, William Kenneth**

*Director, General Development Department, Monsanto Chemical Co., St. Louis 4, Missouri.*

**Rezanka, George Charles**

*Resident Chemist, Refinery Lab., Sinclair Refining Co., E. Chicago, Indiana.*

**Siebert, Sidney A.**

*Chemist, Smith-Emery Co., 920 Santee Street, Los Angeles, California.*

**Sjostrom, Loren B.**

*Head, Food & Flavor Lab., Arthur D. Little, Inc., Cambridge 42, Mass.*

**Stutz, George Frederick Adelbert**

*Engineer, Titanium Unit, N.J. Zinc Co., of Pa., Palmerton Pa.*

**MEMBERS****Lang, Carl John**

*Electrochemist, Oakite Products Inc., 22 Thames St., New York, N.Y.*

**McCammon, Thomas A.**

*Research Chemist, Research Lab., Oakite Products Inc., New York, N.Y.*

**Sanders, John H.**

*Technical Sales Representative, Chemical Sales Division, Tennessee Eastman Corp., 10 E. 40th Street, New York 16, N. Y.*

**Weiner, Howard Martin**

*Acting Head, Chemistry Department, Bergen Junior College, 1000 River Road, Teaneck, New Jersey.*

**RAISED FROM MEMBER TO FELLOW****Jackel, Simon Samuel**

*Research Chemist, Fleischmann Labs., 810 Grand Concourse, Bronx 51, N.Y.*

**RAISED FROM FELLOW TO LIFE****Kelley, Maurice J.**

*Director, Industrial and Development Lab., Nopco Chemical Company, Harrison, New Jersey.*

## Local Chapter News

### C. P. Neidig, F.A.I.C.

#### Chicago

The Chicago Chapter held its Annual Business Meeting on June second. Announcement was made of the twelve students selected from this area to receive AIC Student Medals, (See September CHEMIST), and announcement was also made of the winner of the Chapter's 1950 Honor Scroll, Carl S. Miner.

Dr. Louis Schmerling, after giving a short tribute to Prof. V. N. Ipatieff, officiated at the belated presentation of the honor scroll to Dr. Ipatieff, the scroll itself having been omitted when Prof. Ipatieff was honored at dinner several years ago.

Bruce M. Bare was elected chairman of the Chapter for the coming year.

#### New Jersey

The New Jersey Chapter held a joint meeting with the Analytical Group of the North Jersey Section of the American Chemical Society in April. Dr. Foster D. Snell served as moderator for a panel discussion on the place of the analytical chemist in our industry.

In May, the Chapter held an interesting and successful plant trip to the Research Center of the Johns-Manville Corporation in Manville, New Jersey, and the extensive pilot plant area and the laboratory facili-

ties were inspected. Following the inspection tour, the annual business meeting of the New Jersey Chapter was held at which the new slate of officers was presented:

*Chairman*, Chester Amick

*Chairman Elect*, P. J. Gaylor

*Secretary*, Dr. H. W. Mackinney

*Treasurer*, Dr. E. R. Hanson

*Representative to National*

*Council*, Harry Burrell

*Chapter Councilors*: Dr. T. R.

Aalto, Dr. C. L. Brown, Dr. A.

J. Frey, M. H. Gwynn, John

Hetchler, and Dr. C. S. Sherman

During the year, the New Jersey Chapter has made some progress toward establishing permanent headquarters, and this was reported in an article published in THE CHEMIST. The Chapter was also successful in getting the New Jersey State Assembly to pass a bill which would authorize a referendum for a \$10,000,000 bond issue to provide science teaching facilities for the State Teachers' College.

#### New York

The New York Chapter held its Annual Honors Meeting and Business Meeting at the Hotel Commodore, New York, N.Y. on May twenty-fourth. The Chapter's Honor Scroll was presented to Dr. Wayne

E. Kuhn, manager of the Technical and Research Division of The Texas Company. Speakers at the dinner were K. G. MacKenzie, assistant to the vice president of the Texas Company; AIC President Lawrence H. Flett, and Dr. Martin Meyer, chairman of the New York Chapter. Dr. Kuhn accepted the honor scroll with an address entitled, "The Chemist's Responsibility as a Professional Man." (See page 305). Preceding the dinner, a reception was held for Dr. Kuhn, through the courtesy of The Texas Company.

AIC Student Medals were presented to outstanding members of the senior classes of metropolitan colleges. These students were selected by the chairman of the Chemistry Departments of these colleges, on the basis of their scholastic ability, character, and qualities of leadership. (See September CHEMIST).

At the Annual Business meeting, the following officers were elected:

*Chairman*, Dr. M. J. Kelley

*Vice Chairman*,

Dr. A. F. Guiteras

*Secretary-Treasurer*,

Guy A. Kirton

*Representative to the National Council*, Dr. Martin Meyer

*Chapter Councilors*, Dr. Robert Ginell, K. M. Herstein, Dr. Donald F. Othmer, Dr. Donald B. Keyes, and Robert B. Boyd.

### Niagara

The Niagara Chapter held a meeting at the Prospect House, Niagara Falls, N.Y., on April fifth. Dr. Carl H. Rasch discussed "Pension Plans for Chemists Provided by Corporations and Institutions in Upstate New York." The discussion was based upon results from a questionnaire sent to members of the Niagara Chapter employed by seventy-five corporations and institutions. The pension plans of forty-eight of these as they relate to professional chemists were included in this survey. The formal report of this analysis was published in THE CHEMIST, July issue.

On June first, the Niagara Chapter held a meeting at Canisius College, Buffalo, N. Y. Rev. James J. Pallace, S. J., discussed "The Chemotherapy of the Antihistamines." AIC Student Medals were presented to three outstanding students in the Niagara area. (See September CHEMIST).

The following officers for the year 1950-51 were elected:

*Chairman*, Burt Wetherbee

*Vice chairman*, Dr. E. R. Riegel

*Secretary-Treasurer*,

Dr. Robert H. Schuler

*Representative to the National*

Dr. Hans O. Kauffmann

### Washington

The Washington Chapter held its final meeting of the year on June 27th. At this meeting ballots were formally counted and the following officers were declared elected:

*Chairman*, Louis N. Markwood

*Vice Chairman*,

Elizabeth Hewston

*Secretary*, Paul E. Reichardt

*Treasurer*, Dr. Ruric C. Roark

The luncheon was held in the private dining room of the Federal Trade Commission. A brief informal talk was given by Dr. Milton Harris on the responsibility of the research chemist to inform management as to the place and value of research.

This was the third of the series of luncheons held by the Chapter, in addition to an informal meeting to discuss future plans. The highlight of the year was the luncheon at the Log Cabin of the U.S. Department of Agriculture at Beltsville, Maryland, which was attended by thirty-two chemists. Mr. C. C. Concannon spoke briefly on the place and value of the INSTITUTE.

---

### Long Elected Director

Dr. J. S. Long, F.A.I.C., chemical director of Devoe Raynolds Company, Inc., Louisville, Kentucky, was recently elected District Director for the Kentucky-Tennessee District of the Ohio Chapter of The American Institute of Chemists.

## Necrology

### Monroe J. Bahnsen

Dr. Monroe John Bahnsen, director of chemical research, Ferro Enamel Corporation, Cleveland, Ohio, died February 4, 1950, at the age of forty-three. He was born at Port Clinton, Ohio. He received the B.S. degree in chemical engineering from the Case School in 1929, and the Ph.D. degree from Western Reserve University in 1934.

From 1929 to 1931, he worked for the Grasselli Chemical Company, which he left to accept the Cushman fellowship in chemistry at Western Reserve. After receiving the Ph.D. degree he joined the staff of Ferro Enamel Corporation, specializing in ceramics, he was the author of several technical bulletins, articles, and patents.

Dr. Bahnsen joined THE AMERICAN INSTITUTE OF CHEMISTS in 1941 and was active in the work of the Ohio Chapter, serving as its representative to the National Council from 1945 to 1947. He was also a member of Phi Kappa Tau, Alpha Chi Sigma, Sigma Xi, the American Chemical Society, and the Ceramic Society.

He is survived by his wife, Jane, and three young daughters.

## For Your Library

### Inorganic Syntheses

*Vol. III. Ludwig F. Audrieth, Editor-in-Chief, McGraw-Hill Book Company Inc. viii plus 230 pp. \$3.75.*

The only regret concerning this little volume is the delay in its appearance. Volume I of this Series was published in 1939, Volume II in 1946, and Volume III is only now to hand.

With each succeeding volume there is an improvement in form, while the contents cover a wide range of interest and usefulness. The preliminary general discussions preceding some of the classes of preparation are very useful for the purpose of orientation.

Cumulative indices serve to provide and facilitate references to preceding volumes. In the present volume, the preparations range from Sodium Peroxide 8-Hydrate to Disalicylalethylenediamine Aquodichalc (II).

There is a group of syntheses of fluorides preceded by a short discussion of the handling of fluoride chemicals. In view of the current interest in this field, the material here presented is especially welcome. Another feature of the series which deserves commendation is the authoritative nomenclature. The book is very highly recommended to anyone having an interest in organic chemistry.

—Karl M. Herstein, F.A.I.C.

### Lower Prices Coming!

*By William J. Baxter. International Economic Research Bureau, New York 5, N.Y. 1950; 90 pp. Price \$1.00.*

Irrespective as to whether one agrees with some of the conclusions reached by the author, this is a most interesting survey of the present day economic conditions. Some of the tables are very illuminating, indeed, and what is of interest from the scientist's point of view is the fact that the author brings out the influence of modern scientific achievements on economic conditions, in connection with which he says:

"You are justified in asking just what index I do believe in if the old-fashioned monetary control of prices is passe. The

answer is that the one and only index that is worth a darn is one composed of the following ingredients:

"1. The number of new patents being issued to scientists and industry each month and year.

"2. The amount of money spent on practical research.

"3. The number of scientific students and graduates each year in all the fields of science."

The book presents some unusual aspects of the subject which should be of interest to people of many diverse occupations.

—Dr. Frederick A. Hessel, F.A.I.C.

### Titanium

*Its Occurrence, Chemistry, and Technology. By Jelks Barksdale. The Ronald Press Company. 1949. 591 pp. \$10.00.*

The publication of this book is most opportune. The titanium dioxide industry, infant in 1926, has grown to a giant important enough to merit government anti-trust action; moreover, we are just beginning to develop processes for the production of pure metallic titanium for utilization as a construction material. The abundance of iron on the earth suggested the existence of God to the late Prof. Henry Marion Howe; similarly, this reviewer's belief in the Devil is confirmed in view of the way titanium is scattered over the face of the earth, making the extraction of titanium minerals from its ores devilishly expensive.

This volume contains practically all the information that a reader could expect to find in a book of its title. The best criterion of its scope is the bibliography which fills 27-pages with more than 2000 references comprising about 5000 citations of books, periodicals, and patents. The following compilation is for the statistically minded:

Subject	Number of references
History, geology, chemistry, statistics, etc.	648
Pigment technology (chiefly patents)	860
Miscellaneous applications	724

A test of the bibliography discloses references to publications on titanium which antedate it by only a few months. The



## FOR YOUR LIBRARY

bibliography alone is well worth the price of the volume.

Over one-half of the book is devoted to the manufacture of titanium pigments, which is to be expected, since the bulk of the titanium ores are consumed in this field. The section is comprised chiefly of patent recipes which are not easy reading for the pigment-novitiate. It is an intrinsic deficiency of a patent disclosure that the scientific basis, the record of development, and the historical place of an invention remain undisclosed. For this reason, the author has left to the readers the arduous task of organizing the mass of information into a usable form. In praise of this section, it merits the attention of chemists from other fields. Titanium pigment technology has as its chief problem that of obtaining optimum particle size and aggregation, which is important in other technologies, such as in the production of pharmaceuticals and insecticides.

In the discussion of the numerous processes for the recovery of sulfuric acid from the waste liquor from the sulphate process, some readers may believe that this problem has been solved. This is probably all for the best, since it is manifestly unfair to inveigle fellow chemists into attempting to solve it. At any rate, no satisfactory solution has been found to date. Indeed, one company recently put into service an ocean-going tanker to dump the dilute sulfuric acid at sea.

The reviewer would have liked more information about the properties of metallic titanium and its alloys, but here Dr. Barksdale was limited by the fact that such information is only now being developed. Desired also would be a comparison of the physical properties of titanium, aluminum alloy, and stainless steel as structural materials. The reviewer can not agree that titanium would be ideal for the cable of suspension bridges or steamships. Titanium is light, strong, and corrosion resistant; but in a suspension bridge the weight of a cable is only a small fraction of the total load carried by the cables. Otherwise, the potential uses for titanium metal are portrayed correctly—at least as we can forecast them today.

Dr. Paul R. Heyl, who weighed the earth recently, once advised the reviewer

how to judge a book by its size: A small book is usually good. Here this convenient test fails because the subject volume is large; consequently, the book was read from cover to cover, and found to be like a small book—good.

—Henry Eckhardt, F.A.I.C.

## Chemical Inventions and Chemical Patents

By Edward Thomas. 1950. *Clark Boardman Company Limited*. 880 pp. 6" x 9". \$16.50.

The current volume of the well-recognized work of the author surpasses, in the reviewer's opinion, by far his previous efforts. It is somewhat of a departure from the usual mode of presenting patent law and patent procedure pertaining to situations involving chemistry, in that it directs attention to pitfalls that may be encountered and indicates how they may be obviated. The author states "that a treatise on patent law should, therefore, primarily present plans for forestalling pitfalls in future contests when preparing patent applications, pitfalls in digging up evidence, and pitfalls in conducting litigation or fighting interferences."

"This book, therefore, is written around the conception that pitfalls clearly pointed out are likely to be easily avoided, thus paving the way for stronger patents, and for preventing the heart burnings that arise out of lost opportunities and out of lost contests."

The subject matter is much too comprehensive to admit of its outlining in detail; hence, only the headings of the Parts will be mentioned: Surveying Prospective Patent Rights in an Invention; Appraising the Patent Rights; Formulating the Patent Rights; Construing Formulated Patent Rights; Acquiring Formal Patent Rights and Exploiting Acquired Patent Rights.

The author is to be highly commended upon the result of his latest work in the field of Chemical Patent Law. It is readable and well-worthy of a place in the libraries of patent attorneys and of research and college laboratories.

—Dr. Lloyd Van Doren, F.A.I.C.

## Principles of High-Polymer Theory and Practice

By Alois X. Schmidt and Charles A. Marlies. McGraw-Hill Book Company. 6" x 9". \$7.50

This is an excellent treatise on high polymers, fibers, plastics, rubbers, coatings, and adhesives; a complete, a thoughtful and useful piece of work. Many suggested developments are implicit and stimulating to the research man. The authors state in the preface, "The intent of the more comprehensive approach herein employed is to give insight into underlying phenomena . . . so that, for example, what the reader learns about fibers he will immediately recognize to be translatable also to plastics, rubber, surface coatings and other high-polymer products."

—Dr. John A. Steffens, F.A.I.C.

## Chemical Books Abroad

Rudolph Seiden, F.A.I.C.

Editio Cantor, Aulendorf/Wuertt.: *Die Salicylsäure*, by Oskar Schlenk, 1949, 254 pp., DM 20. An excellent monograph about salicylic acid which was first prepared by Raffaele Piria in 1838 from salicin, a glucoside obtained ten years earlier from the bark of *Salix* species, in which form it had been used as medicine since ancient times. In addition to the history of this important chemical, the author describes all the details of its production, physical and chemical properties, assay methods, physiological and pharmacological qualities, and its many uses in industry and medicine, and he lists 2107 references. • *Allgemeine Grundlagen der Chemotherapie von Infektionskrankheiten*, by Theodor Wagner-Jauregg, 1949, 70 pp., DM \$6.60. This is one of the supplementary issues of an excellent journal, "Die Pharmazie." It deals with the chemical and biological viewpoints of chemotherapy, mode of action of therapeutic agents, properties of micro-organisms, nutrition and metabolism. • *Leitfaden der medizinischen Mikrobiologie und Parasitologie*, by Berthold Kemkes, 1949, 161 pp., DM 11. A concise, well-written textbook, describing all the micro-organisms and animal parasites found in and on human beings. • *Einführung in die anorganische Chemie*, by Georg

Friesen, 1949, 304 pp., DM 8. An introduction into inorganic chemistry, using modern didactic methods. It emphasizes the pharmacological action and the medicinal uses of the elements and their compounds.

Ferdinand Enke Verlag, Stuttgart-W: *Polyvinylalkohole*, by Franz Kainer, 1949, 321 pp., DM 29.60. A very important review of the known facts about the polyvinyl alcohols, their derivatives and uses in a great variety of industries. Many examples taken from hundreds of patents of American, European, and Asiatic firms augment the value of the book for chemical researchers and engineers.

Benno Schwabe & Co., Basel (Grune & Stratton, New York): *Pathologie des Kohlehydratstoffwechsels*, by E. Frank, 1949, 342 pp., SFr. 24. Diabetes and other forms of disturbed carbohydrate metabolism and their treatment are discussed, principally from clinical, but also from biochemical viewpoints.

Verlag Chemie, Weinheim/Bergstrasse, asked us to inform our readers that the famous *Chemisches Zentralblatt*, of which two different editions have been published since 1947, will be unified and its 121st (1950) volume will again be edited by M. Pfuecke.

Leonard Hill, Ltd., London W.1: *Chemical Industries*, 21st ed., 405 pp., 30 s. A reference book compiled by chemists and engineers for their colleagues in all branches of the chemical industry, but also helpful to purchasing agents and others dealing with chemicals and chemical equipment. Many advertisements are interspersed in the text, the various sections of which are encyclopedically arranged. The volume contains a number of valuable tables and practical indices.

Springer-Verlag, Berlin W 35: *Chemie fuer Bauingenieure und Architekten*, by Richard Gruen, 4th ed., 212 pp. with 65 ill., DM \$16.50. A chemistry of building materials, containing the most important facts of value to civil engineers, architects, and building contractors, but also to many industrial chemists. Author describes natural and artificial stone material; cement and other binders; bricks; iron and steel; light metals; wood; asphalt, tar and pitch resins and similar artificial products; roofing materials; putty; paints, etc.

### Information—Free

New Photoelectric Colorimeter. Descriptive sheet. E. Leitz, Inc., 304 Hudson Street, New York 13, N.Y.

"Petroleum Testing Apparatus Catalog No. 705NR." 104 pages. Precision Scientific Company, 3737 W. Cortland Street, Chicago 47, Illinois.

"Why?" Manual No. 397NR on "Precision"—Freas Ovens. Precision Scientific Company, 3737 W. Cortland Street, Chicago 47, Illinois.

"Rato-Vane (Wafer-Type) Air-Operated Butterfly Valves," and "Improved Glass-Pipe Coupling." Information sheets. Fischer & Porter Co., Hatboro, Pa.

"New Refrigerated Bath for Laboratory Use." Information sheet. Fisher Scientific Company, 717 Forbes Street, Pittsburgh 19, Pa.

Desoxyribonucleic Acid." Information sheet. Schwarz Laboratories, Inc., 202 East 44th Street, New York, 17, N.Y.

"Research-size Samples of New Fluorocarbon Gas,  $C_2F_6$ , for Sale." For information write New Products Division, Minnesota Mining and Manufacturing Co., 900 Fauquier St., St. Paul 6, Minn.

"New 'Precision' Cryoscopic Molecular Weight Apparatus." Information sheet. Precision Scientific Co. Chicago 47, Ill.

"Fisher Utilized Laboratory Furniture." Catalog B. Fisher Scientific Company, 717 Forbes St., Pittsburgh 19, Pa.

Dr. Roger W. Truesdail, F.A.I.C., 4101 North Figueroa Street, Los Angeles 65, California., will send a reprint of his article, "When Research Comes in the Door, Recession Jumps Out the Window," (from *Western Industry*, October) to those who request it.

"Dag Colloidal Graphite in the Foundry." Bulletin No. 425, Acheson Colloids Corporation, Port Huron, Michigan.

"Model 83 Monochromator." Information sheets. Perkin-Elmer Corporation, Glenbrook, Conn.

"New Synthetic Wax, Ceramid." Information. Glyco Products Co., Inc., 26 Court St., Brooklyn 2, N.Y.

"Purifil Electronic Device to Detect Suspended Impurities in Liquids." Electric Eye Equipment Company, Danville, Illinois.

"Protective Fireproof Cement for Steel." Brochure. Eagle-Picher Company, Cincinnati 1, Ohio.

"Pliobond, All-Purpose Adhesive." Information on this Goodyear Tire and Rubber Company's adhesive may be obtained from W. J. Ruscoe Company, Akron, Ohio.

"Kaolin Clays and Their Industrial Uses." 144-page book. Available to members of industries using clay, when requested on company letterheads. J. M. Huber Corporation, 342 Madison Avenue, New York, N.Y.

"Houghto-Solv 'W' Fuel Oil Additive to Remove Sludge from Heating Systems." Folder. E. F. Houghton & Co., 303 W. Lehigh Ave., Philadelphia 33, Pa.

"Corrosion Inhibition in Recirculating Water Systems." Serial No. 53. 8-page booklet. Mutual Chemical Company of America, 270 Madison Ave., New York 16, N.Y.

### Available

Tetranitromethane  
Silicone Nitride  
Boron Nitride  
Phosphorous Nitride  
Manganous Oxide  
Cupric Dichromate (crystal)

JOHNSON & SCUDDER  
92 ORCHARD STREET  
Bloomfield, N. J.

### Work Opens New York Office

Dr. Lincoln T. Work, AIC president-elect, consultant, who has been operating from an office in Maplewood, New Jersey, since severance with Powdered Material Research Laboratories in Cambridge, now has office space with Singmaster & Breyer, 420 Lexington Avenue, New York 17, N.Y. (Telephone: LExington 2-1875). He may also be addressed at Maplewood.

---

### Aids for Chromatography

Karl M. Herstein, F.A.I.C., president of Herstein Laboratories, Inc., 128 Water Street, New York 5, N.Y., announces the availability of Alphamine Red R, an indicator used in the chromatographic separation of organic acids. This is the first of a series of aids for chromatography which the laboratories plan to offer. Suggestions for items to be included in the list will be gratefully received and carefully considered.

---

### Spectroscopy Meeting

The September meeting of the Society for Applied Spectroscopy will be held September 12, 1950; at the Socony-Vacuum Training Center, 63 Park Row, New York, N.Y. Preceding the business meeting, an informal dinner will be held at 6 o'clock at Tosca's, 118 Fulton Street.

At the meeting, the new officers and committees will outline plans for the coming season. The officers are:

Chairman, Dr. Harold K. Hughes, Socony-Vacuum Laboratories; Vice-chairman, Rodger W. Loofbrouw, Merck and Company, Inc., Secretary, Charles Jedlicka, Lucius Pitkin, Inc., and Treasurer, Paul E. Lighty, Lime Crest Research Laboratories. The next regular meeting will be held on October third.

### Boyd Appointed

Robert B. Boyd, F.A.I.C., has been appointed general sales manager of Oldbury Electro-Chemical Company, 19 Rector Street, New York, N.Y. He started with the Oldbury Sales Department in 1936, after he was graduated from Iowa State College with the degree of B.S. in chemical engineering. His professional activities in various organizations have won him many friends.

### Steele Elected

Frank J. Steele, Ph.G., M.Sc., M.A.I.C., chief pharmacist at the Greenwich Hospital, Greenwich, Conn., was recently elected vice president and a member of the Board of Trustees at Stamford University, Stamford, Conn.

---

Dr. Stewart J. Lloyd, F.A.I.C., dean of the School of Chemistry at the University of Alabama, and president of the Southern Association of Science and Industry, spoke at the Association's two-day regional meeting in Charleston, South Carolina, May first and second.

## Condensates

Ed. F. Degering, F.A.I.C.

*Armour Research Foundation*

Whenever I hear about big game hunting, I recall the story about the boy whose uncle took him on a deer hunt and how it taught him an important lesson in life.

When he got way back in the hills, where there were no towns and almost no houses, they stopped in front of a weather-beaten old cabin. A fellow named Bill climbed into the car and proceeded to tell them where to drive. The uncle explained to the youngster that Bill was a guide and would show them the best places to hunt deer. "But uncle," he whispered, "You're the best hunter in the state. Couldn't you find a deer?" "Maybe I could, son," he grinned, "and maybe I couldn't. But I always figure it's a lot

smarter to get some fellow like Bill who knows the country to show you around."

Those words of the boy's uncle stuck. Later on in life, after the boy had grown up, he told me the story, and he said, "You and I may be all right in our respective fields . . . we may know everything there is to know about our own business, but when we get into strange country, we'd both be a lot smarter to get a guide; someone who knows where we want to go . . . the surest, shortest, easiest way to get us there."

It is estimated that Clear Lake, California, will be ridded of about 356-tons of gnats by treatment with 1,1-dichloro-2,2-bis(p-chlorophenyl) ethane or TDE.

The big five organic chemicals, with respect to production and consumption, are: synthetic methanol (over 1-billion pounds in 1948), formaldehyde, acetic acid, acetic anhydride, and acetone.

**are your** • **STILLS**  
• **DRYERS**  
• **EVAPORATORS**  
• **CRYSTALLIZERS**  
• **PROCESS VESSELS**

### OPERATING AT VACUUMS LIMITED BY THE VAPOR PRESSURE OF THE CONDENSATE ?

Many stills, dryers, evaporators, crystallizers and other processing vessels are operating at vacua limited by the vapor pressure of the condensate. This means on the average an absolute pressure of about 2.0" Hg. Most owners of such equipment do not realize how practical and economical it is to put a Booster Evactor in the line between the vessel and the condenser and maintain an absolute pressure of 0.5", 0.25" or even lower. The benefits of this higher vacuum in improving quality and capacity are often very substantial.

The steam jet type of vacuum pump has continually gained in favor for high vacuum in industrial process work. The

total absence of moving parts is a big advantage and means many years of service, with no maintenance cost. Available in single, two, three, four and five-stage units for vacuum from a few inches up to a small fraction of 1 m.m. Hg. absolute.

Croll-Reynolds have been specializing on this type of equipment for over 30 years, and have made thousands of separate installations. Their engineers have extensive experience in applying it to numerous different processes, and are available for consultation without obligation. Literature is also available on request.



**CROLL REYNOLDS CO., Inc.**

17 JOHN STREET, NEW YORK 7, N. Y.

Chill-Vactors Steam Jet Evactors Condensing Equipment



## Professional Services

---

### ELLIS-FOSTER COMPANY

Established 1907

*Research and Consulting Chemists*

Specializing in Synthetic Resins and their  
Plastics and Related Subjects

4 Cherry Street Montclair, N. J.  
Telephone MONTclair 2-3510

---

### MOLNAR LABORATORIES

Organic Process Development, Control  
Laboratory and Pilot Plant Studies

*Your Inquiries Invited*

211 E. 19th St. New York 3, New York  
Telephone: GRamercy 5-1030

---

### Condensates (Con't.)

Synergism has been aptly defined as the property that makes two plus two equal five, which is illustrated by the addition of phthalonitrile to nicotine to give an insecticide that is more than twice as good as either used singly.

Preliminary clinical studies indicate that N-methyl-N'-(4-chlorobenzhydryl) piperazine, compound 47-282 or chlorocyclizine, in daily oral doses of 50 mg. will relieve allergic symptoms for 24-hours.

### National Council Meeting

The National Council AIC, will meet, September 13, 1950, at the Chemists' Club, New York, N.Y., at 6:00 p.m.

---

### PHOENIX

CHEMICAL LABORATORY, INC

*Specialists in Petroleum Products  
Chemical Tests Physical Tests  
Qualification Tests*

3953 Shakespeare Avenue  
CHICAGO 47, ILL.

---

### EVANS

RESEARCH & DEVELOPMENT  
CORPORATION

*Organic and Inorganic Chemistry  
Processes — Products*

*Unusually Extensive Facilities  
Your Inspection Invited*

250 EAST 43RD ST., NEW YORK 17, N. Y.

---

### THE LENTO PRESS

*Distinctive Printing*

441 Pearl Street New York, N.Y.  
WOrth 2-5977

---

**FOSTER D. SNELL** <sup>INC.</sup>  
**RESEARCH**  
CHEMISTS  ENGINEERS  
**LABORATORIES**  
**29 W 15TH ST. NEW YORK 11, N.Y.**  
• WATKINS 4-8800 •



# CHECK

# IF YOU WANT YOUR NAME ADDED to the Baker Mailing List



## Baker's Chemicals

L · F · ANALYZED · FINE · INDUSTRIAL

Baker would like to better serve more chemists and purchasing agents of more firms during 1950. Won't you help us enlarge our mailing lists?

If you or your firm purchases Laboratory Chemicals, you will want Baker's Analyzed Promotion as well as Price and Specification Catalogues.

If you or your firm manufactures drugs or pharmaceuticals and needs purity by the ton, then Baker's Fine Chemical Promotion and Price Schedule will be of interest to you.

If you or your firm purchases Industrial Chemicals, you will want Baker's Industrial Chemical Price Schedule and Promotion according to industries.

If you purchase all three—Laboratory, Fine and Industrial Chemicals—be sure to check all three.

If you are a practicing chemist, we urge you to place a check before THE CHEMIST ANALYST. More than 40,000 chemists receive this "how to do it" House Organ published quarterly. It is free—a service Baker has rendered to its chemist friends since 1911.

J. T. BAKER CHEMICAL CO.  
Phillipsburg, New Jersey

Dept. 33

Please add my name to your mailing list. I have checked the type of Promotion that interests me.

- ☐ Laboratory Chemical Price Schedule \_\_\_\_\_  
☐ Fine Chemical Price Schedule \_\_\_\_\_  
☐ Industrial Chemical Price Schedule \_\_\_\_\_  
☐ The Chemist Analyst \_\_\_\_\_

Name of individual \_\_\_\_\_

Title \_\_\_\_\_

Name of Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_



# Tremendous trifle



HOW INFINITELY small the cost of reagent chemicals—when so much depends upon their use!

THE PURITY of a few crystals, a touch of powder, or a drop of liquid may spell the difference between success or failure of a vital experiment . . . or even an entire production schedule.

IN WORK where "trifles" have such magnitude, it doesn't pay to compromise in your choice of chemicals. That is why so many careful chemists always specify Baker & Adamson Reagents . . . the reliable, premium quality brand which has set the pace in chemical purity since 1882.

IN YOUR LABORATORY, be sure every time. Specify "B&A" Reagents!



## BAKER & ADAMSON *Reagents*

GENERAL CHEMICAL DIVISION

ALLIED CHEMICAL & DYE CORPORATION

----- 40 RECTOR STREET, NEW YORK 6, N. Y. -----

Offices: Albany • Atlanta • Baltimore • Birmingham • Boston • Bridgeport • Buffalo •  
Charlotte • Chicago • Cleveland • Denver • Detroit • Houston •  
Los Angeles • Minneapolis • New York • Philadelphia • Pittsburgh • Portland (Ore.) •  
Providence • St. Louis • San Francisco • Seattle • Wenatchee (Wash.) • Yakima (Wash.)

In Wisconsin: General Chemical Company, Inc., Milwaukee, Wis.

In Canada: The Nichols Chemical Company, Limited • Montreal • Toronto • Vancouver

SETTING THE PACE IN CHEMICAL PURITY SINCE 1882

\* Complete stocks are carried here.